

What is claimed is:

1. A polishing and cleaning compound system constituted of at least a polishing device unit for polishing a thin disc-shaped work piece, a
5 cleaning device unit arranged in series to said polishing device and for cleaning said work piece polished by said polishing device unit and a transporting means for transporting said work piece from a container in which a plurality of said work pieces are installed to said polishing device unit and said cleaning device unit in turn, characterized in that:
 - 10 said polishing device unit comprises at least:
 - a pair of cylindrical polishing tools, each of which has a polishing cloth;
 - 15 at least one roller for rotation which is arranged above said cylindrical polishing tools, which limits an upper position of said work piece and which makes said work piece rotate in its axis;
 - 20 a first holding means for vertically gripping and holding said work piece transported from said container in which the plurality of said work pieces are installed in turn; and
 - 25 a polishing means for making said work piece held by said first holding means rotate in its axis by said roller for rotation and for making the pair of said cylindrical polishing tools rotate so as to pull said work piece up.
2. A polishing and cleaning compound system constituted of at least a
25 polishing device unit for polishing a thin disc-shaped work piece, a cleaning device unit arranged in series to said polishing device and for

cleaning said work piece polished by said polishing device unit and a transporting means for transporting said work piece from a container in which a plurality of said work pieces are installed to said polishing device unit and said cleaning device unit in turn, characterized in that:

5 said cleaning device unit comprises:

 second holding means each of which holds said work piece transported from said polishing device unit in turn; and

10 a cleaning means provided with a circular transport means in which said second holding means are arranged at regular intervals on a circumference thereof and a pair of cleaning tools which grip said work piece when said work piece held by said second holding means has moved to a specific position, and makes said cleaning tools rotate and said work piece rotate in its axis.

15 3. A polishing and cleaning compound device according to claim 1, wherein:

 said cleaning device unit comprises:

 second holding means each of which holds said work piece transported from said polishing device unit in turn; and

20 a cleaning means provided with a circular transport means in which said second holding means are arranged at regular intervals on a circumference thereof and a pair of cleaning tools which grip said work piece when said work piece held by said holding means has moved to a specific position, and makes said cleaning tools rotate and said work piece rotate in its axis.

4. A polishing and cleaning compound device according to claim 2, wherein:

5 said second holding means comprises a plurality of rollers for rotation which are in contact with a circumferential edge of said work piece.

5. A polishing and cleaning compound device according to claim 3, wherein:

10 said second holding means comprises a plurality of rollers for rotation which are in contact with a circumferential edge of said work piece.

6. A polishing and cleaning compound device according to claim 3, wherein:

15 said cylindrical polishing tools are in contact with said work piece linearly at a position with a specific value lower than a horizontal reference line passing through a center point of the work piece and in parallel with said horizontal reference line.

20 7. A polishing and cleaning compound device according to claim 5, wherein:

25 said cylindrical polishing tools are in contact with said work piece linearly at a position with a specific value lower than a horizontal reference line passing through a center point of said work piece and in parallel with said horizontal reference line.

8. A polishing and cleaning compound device according to claim 3, wherein:

5 said cylindrical polishing tools are in contact with said work piece linearly at a position with a specific value lower than a horizontal reference line passing through a center point of said work piece with inclination to said horizontal reference line at a specific angle.

9. A polishing and cleaning compound device according to claim 5, wherein:

10 said cylindrical polishing tools are in contact with said work piece linearly at a position with a specific value lower than a horizontal reference line passing through a center point of said work piece with inclination to said horizontal reference line at a specific angle.

15 10. A polishing and cleaning compound device according to claim 3, wherein:

at least one of said rollers for rotation constituting said polishing device unit makes said work piece move so as for a center of said work piece to pass through a contact area of said cylindrical polishing tools.

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11. A polishing and cleaning compound device according to claim 5, wherein:

25 at least one of said rollers for rotation constituting said polishing device unit makes said work piece move so as for a center of said work piece to pass through a contact area of said cylindrical polishing tools.

12. A polishing and cleaning compound device according to claim 3,
wherein:

5 at least one of said rollers for rotation constituting said polishing
device unit makes said work piece move so as for a center of said work
piece to cross a contact area of said cylindrical polishing tools.

13. A polishing and cleaning compound device according to claim 5,
wherein:

10 at least one of said rollers for rotation constituting said polishing
device unit makes said work piece move so as for a center of said work
piece to cross a contact area of said cylindrical polishing tools.

14. A polishing and cleaning compound device according to claim 3,
wherein:

15 said rollers for rotation constituting said polishing device unit
makes said work piece revolve elliptically so as for a center of said work
piece to cross a contact area of said cylindrical polishing tools.

15. A polishing and cleaning compound device according to claim 5,
20 wherein:

said rollers for rotation constituting said polishing device unit
makes said work piece revolve elliptically so as for a center of said work
piece to cross a contact area of said cylindrical polishing tools.

25 16. A polishing and cleaning compound device according to claim 1,
wherein:

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during said cylindrical polishing tools are driven to said work piece, a polishing process in which abrasive is poured to said cylindrical polishing tools and a cleaning process in which washing water is poured to said cylindrical polishing tools are carried out in series.

17. A polishing and cleaning compound device according to claim 3, wherein:

10 during said cylindrical polishing tools are driven to said work piece, a polishing process in which abrasive is poured to said cylindrical polishing tools and a cleaning process in which washing water is poured to said cylindrical polishing tools are carried out in series.

18. A polishing and cleaning compound device according to claim 16, wherein:

15 said polishing process and said cleaning process are overlapped for a specific time.

19. A polishing and cleaning compound device according to claim 17, wherein:

20 said polishing process and said cleaning process are overlapped for a specific time.

20. A polishing and cleaning compound device according to claim 16, wherein:

25 said polishing process is carried out by pouring the abrasive to said cylindrical polishing tools, and said cleaning process is carried out by

pouring the washing water to said cylindrical polishing tools.

21. A polishing and cleaning compound device according to claim 17, wherein:

5 said polishing process is carried out by pouring the abrasive to said cylindrical polishing tools, and said cleaning process is carried out by pouring the washing water to said cylindrical polishing tools.

22. A polishing and cleaning compound device according to claim 18, 10 wherein:

 said polishing process is carried out by pouring the abrasive to said cylindrical polishing tools, and said cleaning process is carried out by pouring the washing water to said cylindrical polishing tools.

15 23. A polishing and cleaning compound device according to claim 19, wherein:

 said polishing process is carried out by pouring the abrasive to said cylindrical polishing tools, and said cleaning process is carried out by pouring the washing water to said cylindrical polishing tools.

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